

JONES DECLARATION

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
TYLER DIVISION**

ADAPTIX, INC.,

Plaintiff,

v.

ALCATEL-LUCENT USA, INC. and
AT&T MOBILITY LLC,

Defendants.

Civil Action 6:12-cv-00022 (MHS-CMC)

JURY TRIAL DEMANDED

ADAPTIX, INC.,

Plaintiff,

v.

ALCATEL-LUCENT USA, INC. and
CELLCO PARTNERSHIP *d/b/a*
VERIZON WIRELESS,

Defendants.

Civil Action No. 6:12-cv-00122 (MHS-CMC)

JURY TRIAL DEMANDED

ADAPTIX, INC.,

Plaintiff,

v.

ALCATEL-LUCENT USA, INC. and
SPRINT SPECTRUM L.P.,

Defendants.

Civil Action No. 6:12-cv-00123 (MHS-CMC)

JURY TRIAL DEMANDED

**DECLARATION OF NIGEL JONES IN SUPPORT OF PLAINTIFF'S MOTION TO
COMPEL SOURCE CODE**

I, Nigel Jones, declare as follows:

1. I submit this declaration in support of Plaintiff's Motion to Compel Source Code. I am competent to testify to the matters stated in this Declaration and each of the facts is true and correct to the best of my knowledge;

2. I am the President of R.M.B. Consulting Inc. in Frederick, Maryland 21702 and also the Chief Engineer for Barr Group in Gaithersburg, Maryland 20879 (the “Barr Group”). I have been retained as a technical expert in the matter on behalf of Plaintiff Adaptix Inc. (“Adaptix”) to study and provide my opinions regarding the source code used in the accused Base Station products supplied by Defendant Alcatel-Lucent USA, Inc. (“ALU”);
3. *Circa* August 2013, I was vetted through ALU when I had my *curriculum vitae*, including current employer information and employment history for the past 10 years, as well as an executed copy of my agreement to be bound by the underlying Protective Order, presented to ALU and the other Defendants. Four other individuals affiliated with the Barr Group, i.e., Thomas Brooks, Paul McFall, Nelson Owens, and Dan Smith, have been vetted also who, under my direct supervision and control, assist and support my study and opinions mentioned in the previous paragraph of this Declaration. Further, Dr. Jonathan Wells of AJIS Consulting, Pleasanton, California, who has been vetted through ALU, has assisted me with my study and opinions (for convenience, I shall refer to these five individuals as my “support staff” or “staff”);
4. I obtained a first class honors degree in engineering from Brunel University, London U.K. I have thirty years of experience working with embedded systems, of which ALU’s Base Station products are examples. I have written software for telecommunications base stations and radios and have three patents pending related to telecommunications. Attached as Exhibit A to this Declaration is a copy of my current *curriculum vitae*, which includes a complete list of my publications and expert testimony as of the date of the filing of this declaration;

BACKGROUND

5. As part of the ongoing *Adaptix v. Alcatel-Lucent et.al.* matters, Adaptix has wished and continues to wish to perform a review of ALU source code for the accused base station products. Source code is the human readable instructions that define the functionality of the accused products. As such, to understand the functionality of the accused products, one needs to understand the source code;
6. Source code reviews are not trivial undertakings. Typically source code for telecommunications equipment, such as the base stations in this matter, can run into the many thousands of “files,” or many millions of lines of source code. This is analogous to document discovery, which can also run into the many thousands of documents, or many millions of sentences;
7. Source code can be written in various languages. This again can be viewed as analogous to document production, whereby documents can be produced in different formats (for example, paper documents for binding into books or manuals, or computer-readable formats such as Microsoft Word or PDF files for viewing on a computer or e-book);
8. Source code is usually highly modularized. Each module performs a specific function for the accused product. Modules typically consist of header files and code files. Header files are analogous to a table of contents and glossary in a document. Code files contain the actual instructions analogous to the text of a document. The various modules are interrelated. To understand the functionality of one module, it is necessary to understand the interconnected modules upon which the module relies;

9. In order to perform this ALU source code review, Adaptix has requested of ALU all source code files for the accused base station products. This full production is necessary to properly understand the full functioning of the accused products. Any omission of source code files from this production will hamper the understanding of the operation of the product, or hide accused functionality;

10. I understand that, as of now, the following are the accused ALU base station products:

- 9100 Multistandard Base Station;
- 9412 eNodeB Compact;
- 9460 Pico (a/k/a p426 Pico);
- 9926 Distributed Base Station;
- 9442 Remote Radio Head;
- lightRadio 9711 Indoor Base Station for LTE;
- lightRadio 9712 Outdoor Base Station for LTE; and
- 9760 Small Cells, including 9764 Metro Cell Outdoor LTE and 9768 Metro Radio Outdoor;

11. In order to perform this source code review, Adaptix has requested certain fundamental equipment to enable efficient review of the ALU source code. These equipment included:

- A computer containing all of the ALU source code;
- A screen size bigger than 17", preferably as an external monitor to the computer; and

- Certain software “tools” to enable efficient review and analysis of the source code;

12. I have conducted many source code reviews and these tools are standard tools I have used in the past. It is my opinion that the request of such equipment is reasonable and standard for such a source code review. For example, the use of a screen larger than 17” is necessary to enable proper review of source code which may include, for example, opening multiple viewing windows to enable side-by-side comparison of different files, or to be able to view multiple lines of source code within big file structures. Furthermore, given the fact that the source code computer is often a laptop computer with a correspondingly small screen, the typically one-week long code review, involving extensive time viewing complex software on the screen, often by more than one viewer, requires a larger monitor for proper ergonomics and health and safety purposes;

13. Furthermore, Adaptix has requested that several software tools be installed on the source code computer. These tools include the following programs: “Eclipse,” “Understand,” and “Beyond Compare.” “Eclipse” is a program that displays code in a readable format and allows navigation between related files. “Understand” is a program that builds a database of the files provided and gives metrics on how the code is architected. It also provides a list of missing files. “Beyond Compare” is a program that compares files and directory structures to one another. In this regard, Adaptix stipulated that for any such software tools that are not freely available, Adaptix would pay for such tools;

14. The use of these software tools is analogous to the use of search tools in document discovery. For example, document discovery can amount to many thousands of pages, of many millions of words. In order to find items of interest, search tools are used to scan through these documents, index them, and provide easier access to the content. For documents produced in one format (for example, Microsoft Word), certain search tools are used (for example, the “find” command within Microsoft Word). However, this tool may only work within one document, so another tool is required to search through all documents (for example, across multiple Microsoft Word documents). Furthermore, this tool may not work for similar documents produced in a different format (for example, a Word search tool cannot search through PDF documents). In addition, some programs allow two different documents to be viewed and compared alongside one another, to compare and contrast different revisions of documents. Without such tools, analysis of document comparison would be tedious, slow, and cumbersome;

NOTICE OF CODE REVIEW

15. I understand from Adaptix’s counsel that, on February 3, 2014, Adaptix’s counsel advised ALU’s counsel that Adaptix intended to commence review of ALU source code.¹ I also understand that review of ALU source code was denied for at least three weeks (Lipman Decl., Exs. 4 through 15);

¹ For convenience, I make reference to certain exhibits from the Declaration of Adaptix Counsel Steven Lipman (“Lipman Decl.”) throughout my Declaration, which I understand will be filed with this Declaration in support of Adaptix’s Motion to Compel, that relates to certain factual statements I make in this Declaration. Here, I make reference to Lipman Decl., Exs. 1 through 3.

FIRST ATTEMPTED SOURCE CODE REVIEW

16. Eventually a one week review of ALU source code was arranged at the offices of ALU's counsel, Quinn Emanuel, in Chicago on Monday, March 3rd to Friday, March 7, 2014 (Lipman Decl., Ex. 16);
17. On Monday, March 3rd and upon my instructions, supervision, and control, Mr. Brooks from my support staff, arrived to perform this review. Mr. Brooks reported, among other things, the following:
- a. The requested software tools (for example, "Eclipse," "Understand," and "Beyond Compare") were not installed on the source code computer;
 - b. The produced source code was substantially incomplete. For example, there was less than 200 source code files provided per customer base. This was much fewer than the many thousands expected. Review of these few files showed that these files referenced many further files which were simply missing. In addition, none of the source code for the FPGA's² was provided;
 - c. A large monitor was provided for proper viewing of the source code; and
 - d. ALU's counsel present at the March 3rd review was advised of at least the two deficiencies noted above, that prohibited Adaptix from properly reviewing ALU source code. In addition, a list of identified missing files was given to ALU's counsel present at the review. This list was not meant to be

² A **field-programmable gate array (FPGA)** is an **integrated circuit** designed to be configured by a customer or a designer after manufacturing — hence "**field-programmable**." The FPGA configuration is generally specified using a **hardware description language (HDL)**, similar to that used for an **application-specific integrated circuit (ASIC)** (**circuit diagrams** were previously used to specify the configuration, as they were for ASICs, but this is increasingly rare). See http://en.wikipedia.org/wiki/Field-programmable_gate_array for a relatively simple explanation.

exhaustive; it was meant to provide a list illustrative of the missing files
(Lipman Decl., Ex. 17);

18. On Tuesday, March 4th and upon my instructions, supervision, and control, Messrs. Brooks and Owens from my support staff arrived to continue the review. They reported, among other things, the following:

- a. Only two of the three requested software tools had been installed;
- b. One of these tools allowed a list of known missing files to be compiled. The list included over 200 files that were referenced by the produced files, but were missing from the production. Note that this list represents the *minimum* number of missing files, since it is normal for missing files to in turn reference other files that are missing. Given that there was less than 200 files produced, at the very most, less than half of the source code was produced by ALU;
- c. The monitor was removed during the day, leaving Messrs. Brooks and Owens to review the software together on a small laptop screen; and
- d. Again, ALU counsel was advised verbally by Messrs. Brooks and Owens of at least the three deficiencies noted above, that prohibited Adaptix from properly reviewing ALU source code (*Id.*; *see also* Lipman Decl., Ex. 18);

19. On Wednesday, March 5th and upon my instructions, supervision, and control, Messrs. Brooks and Owens from my support staff arrived to continue the review. They reported, among other things, the following:

- a. The software tool “Beyond Compare” had still not been loaded on the source code computer;

- b. The at least 200 referenced-but-missing files still had not been produced;
 - c. The external monitor for viewing the files was still not made available; and
 - d. Again, ALU counsel was advised verbally by Messrs. Brooks and Owens of at least the three deficiencies noted above, that prohibited Adaptix from properly reviewing ALU source code;
20. On Thursday, March 6th and upon my instructions, supervision, and control, Mr. Owens from my support staff arrived to continue the review. He reported that the deficiencies reported the previous day still had not been cured. For example:
- a. The software tool “Beyond Compare” had still not been loaded on the source code computer;
 - b. The at least 200 referenced-but-missing files still had not been produced; and
 - c. The external monitor for viewing the files was still not made available;
21. Given that a majority of the source code files were not made available, the minority of files made available did not enable understanding of the operation of the accused products, and the reviewing setup was not conducive for efficient review of the minority of files produced, the source code review was terminated one-day early with little or any substantive advancement on the inspection;

SECOND ATTEMPTED SOURCE CODE REVIEW

22. A second, longer review of ALU source code was planned at the Chicago offices of Quinn Emanuel on Wednesday, March 19th through Friday, March 28th (Lipman Decl., Ex. 19);
23. I understand that on Tuesday March 18th, late in the day, ALU counsel confirmed Adaptix counsel by e-mail that the full production of ALU source code would be

available for review the following day (Wednesday, March 19th) (Lipman Decl., Ex. 20). It was not possible to arrange for a member of my staff to be at the Quinn Emanuel offices on 12-hours notice. However, I was able to arrange for Mr. Owens to be at the Quinn Emanuel offices for 9 a.m. on Thursday, March 20th;

24. I also understand that on Wednesday, March 19th, ALU counsel advised Adaptix counsel by e-mail that the full production of source code would be delayed until noon the following day (Thursday, March 20th) (Lipman Decl., Exs. 21 through 24). This necessitated Mr. Owens changing his travel plans to accommodate the late start;

25. On Thursday, March 20th and upon my instructions, supervision, and control, Mr. Owens from my support staff arrived again to start the source code review. He reported, among other things, the following:

- a. The software tool “Beyond Compare” had still not been loaded on the source code computer; and
- b. The external monitor for viewing the files was still not made available (Lipman Decl., Ex. 25);

26. Despite these previously reported deficiencies, which still had not been cured, Mr. Owens and upon my instructions, supervision, and control, proceeded with the source code review. He reported that the new code production included the following:

- a. Some new source code was provided;
- b. Additionally some compressed files were provided (analogous to when files are “zipped” together to compress and save space). No decompression tool was provided on the source code computer so Mr. Owens could not uncompress the files;

- c. Despite decompression being a quick and trivial task, it took multiple requests to ALU's counsel's staff and many elapsed hours of negotiation to have the files uncompressed into a readable and useful format; and
 - d. When uncompressed, the directories produced contained a large number of "header files" (essentially the definitional files alluded to earlier in this Declaration). However, the source code subdirectories, where one would expect to find the computational algorithms that perform the actual implemented functionality, were empty. Thus, once again, the majority of the requested ALU source code was not produced, and no understanding of the asserted products could be ascertained (*Id.*);
27. Given that a majority of the ALU source code files were not made available, and the reviewing setup was not conducive for efficient review of the minority of the files produced, travel plans for Messrs. Brooks and Wells were cancelled and the second source code review was terminated six days early;

CONCLUSIONS

28. Thus far only a small minority of the requested ALU source code files have been made available for review. Such source code is necessary to enable understanding of the operation of the accused products (*see* paragraph 10 of this Declaration, *supra.*). Not all the software tools reasonably requested and paid for by Adaptix have been installed on the source code computer. Additionally, the viewing ergonomics requested have not been adequately satisfied;
29. Finally, I note that approximately 10 man-days of effort has been expended by Adaptix source code reviewers in terms of travel time and time in the source code

inspection room provided by ALU's counsel. Further, plane tickets, hotel costs, and other travel expenses on the order of \$10,000 have been incurred; and

30. I declare under the pains and penalty of perjury under the laws of the United States, that the foregoing is true and correct.

Executed this 31st day of March, 2014, at Boston, MA.

/s/ Nigel Jones

Nigel Jones